

**REMARKS****I. General**

The following issues are raised by the present Office Action:

- Claims 1, 3-5, and 7-10 stand rejected under 35 U.S.C. § 102(b) as anticipated by Isfeld et al., U.S. Pat. No. 5,802,278 (hereinafter *Isfeld*); and
- Claims 2, 6, and 11-26 stand rejected under 35 U.S.C. § 103(a) as unpatentable over *Isfeld*, in view of Nolan et al., U.S. Pat. No. 6,446,141 (hereinafter *Nolan*).

Applicant hereby traverses the outstanding rejections of the claims, and requests reconsideration and withdrawal of the outstanding rejections in light of the remarks contained herein. The specification has been amended above to replace recitations of Applicant docket numbers to identify incorporated related applications with serial numbers or patent numbers. Claims 1-26 are currently pending in this application.

**II. Rejections under 35 U.S.C. § 102(b)**

As noted, claims 1, 3-5, and 7-10 stand rejected under 35 U.S.C. § 102(b) as anticipated by *Isfeld*. Applicant respectfully traverses these rejections for the reasons advanced below.

**The recited reference does not teach all claimed elements.**

It is well settled that to anticipate a claim, a reference must teach every element of the claim, see M.P.E.P. § 2131. Moreover, in order for a reference to be anticipatory under 35 U.S.C. § 102 with respect to a claim, “[t]he elements must be arranged as required by the claim,” see M.P.E.P. § 2131, citing *In re Bond*, 15 US.P.Q.2d 1566 (Fed. Cir. 1990). Furthermore, in order for a reference to be anticipatory under 35 U.S.C. § 102 with respect to a claim, “[t]he identical invention must be shown in as complete detail as is contained in the . . . claim,” see M.P.E.P. § 2131, citing *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q.2d 1913 (Fed. Cir. 1989). Applicant respectfully asserts that the rejections do not satisfy one or more of these requirements, as detailed below.

The preamble of independent claim 1 recites: “A method for providing a peripheral device virtual functionality overlay for a data library.” M.P.E.P. § 2111.02 provides that “Any terminology in the preamble that limits the structure of the claimed invention must be treated as a claim limitation.” Applicant respectfully urges that the preamble recitation of providing a peripheral device virtual functionality overlay for a data library should be treated as a claim element. Further, Applicant respectfully points out that *Isfeld* is silent concerning a data library, much less providing a data library a peripheral device virtual functionality overlay.

Independent claim 1 also recites: “intercepting commands to a library data transfer element within a bridge disposed between a command initiator and said library.” The Office Action cites column 9, lines 24-27 of *Isfeld* as teaching this element. *Isfeld* fails to teach any sort of library. Thus, Applicant respectfully asserts that for this reason alone *Isfeld* cannot teach “intercepting commands to a library data transfer element.” Further, the cited portion of *Isfeld* fails to teach “intercepting commands” rather it seems that the discussion at column 9, lines 24-27, and in the following paragraph, of *Isfeld* deals with forwarding packets (line 25), rather than “intercepting commands.” Additionally, *Isfeld* fails to teach that a bridge is “disposed between a command initiator and said library.” For example, FIGURE 1 of *Isfeld* only shows the Input/Output Processors (IOPs), Semi-intelligent Input/Output processors (IOSs) and Input/Output modules (IOMs) are each shown disposed between network connections and a parallel bus 11 and 12.

Independent claim 1 also recites “passing through commands that can be carried out by said data transfer element to said data transfer element.” The Office Action cites column 9, lines 28-42 of *Isfeld* as teaching this element. The cited portion of *Isfeld* appears to disclose routing of a packet by an IOP that does not “know” the destination of the packet and use of a central internetworking processor (COX) to look up a destination network. The cited text of *Isfeld* calls for routing the packet, with instructions, to another IOP which does not examine the packet but only follows the instructions to route the packet. Applicant respectfully asserts that these teachings in *Isfeld* fail to teach passing through commands that can be carried out by an element, to that element. In contrast, *Isfeld* is silent concerning commands, much less passing through such commands. At best, the cited portion of *Isfeld*

only appears to teach that packets which cannot be directly routed are routed with instructions.

Independent claim 1 also recites “executing, with said bridge, commands addressed to said data transfer element that cannot be carried out by said data transfer element.” The same lines 28-42 of column 9 in *Isfeld* are cited by the Office Action as teaching this element. As noted above, this portion of *Isfeld* only teaches routing of a packet by an IOP that does not “know” the destination of the packet to another IOP, with instructions and the second IOP only following the instructions to route the packet. These teachings in *Isfeld* fail to teach “executing, with said bridge, commands addressed to said data transfer element that cannot be carried out by said data transfer element.” As noted above, *Isfeld* is silent concerning commands, much less commands that cannot be carried out by a element or execution of those commands by the bridge. The cited portion of *Isfeld* arguably teaches the execution of instructions (commands) by the second IOP. However, these instructions are generated by the first IOP or the COX and are clearly not addressed to a data transfer element and are not commands that cannot be carried out by a data transfer element.

For at least the above reasons, independent claim 1 recites elements not taught by *Isfeld*, and thus is patentable over the 35 U.S.C. § 102 rejection of record. Furthermore, a person of ordinary skill in the art considering the prior art would not find the above identified differences obvious.

Claims 3-5, and 7-10 ultimately depend from independent claim 1, and thus each of claims 3-5, and 7-10 inherit all elements of claim 1. Therefore, for at least the reasons advanced above in addressing the anticipation rejection of claim 1, Applicant respectfully asserts that each of claims 3-5, and 7-10 set forth features and elements not recited by *Isfeld*. Hence, claims 3-5, and 7-10 are also patentable over the 35 U.S.C. § 102 rejection of record.

### **III. Rejections under 35 U.S.C. § 103(a)**

As noted above, claims 2, 6, and 11-26 stand rejected under 35 U.S.C. § 103(a) as unpatentable over *Isfeld*, in view of *Nolan*. Applicant respectfully traverses these rejections for at least the reasons advanced below.

**A Prima Facie case of obviousness has not been established.**

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art cited must teach or suggest all the claim limitations. See M.P.E.P. § 2143. Without conceding the second criterion, Applicant asserts that the rejection does not satisfy the first and third criteria.

**A. The recited combination does not teach or suggest all claimed elements.**

In addressing claims 2, 6 and 11-26 the Office Action admits that *Isfeld* fails to teach “partitioning a library.” The Office Action attempts to cure this deficiency by introducing *Nolan*, which the Office Action alleges to teach “the partitioning of a library in a SAN”. However, for at least the reasons advanced below, Applicant respectfully contends that this combination does not teach or suggest all elements of claims 2, 6 and 11-26.

**1. Claims 2, 6 and 11**

As noted above in addressing the anticipation rejection of claim 1, *Isfeld* fails to teach or suggest various elements of claim 1. Claims 2, 3 and 11 ultimately depend from claim 1. Thereby, each of claims 2, 3 and 11 inherit all elements of claim 1. Therefore, for at least the reasons advanced above in addressing the anticipation rejection of claim 1, each of claims 2, 3, and 11 set forth features and elements not recited by *Isfeld*. *Nolan* is not relied upon in the Office Action as disclosing these elements. Therefore, the combination of *Isfeld* and *Nolan* does not teach all elements of claims 2, 3 and 11. Hence, Applicant respectfully asserts that for at least the above reasons claims 2, 3 and 11 are patentable over the 35 U.S.C. § 103(a) rejection of record.

**2. Claims 12-17**

The preamble of independent claim 12 recites: “A peripheral device virtual functionality overlay system for a partitioned data library.” As noted above, *Isfeld* is silent

concerning a data library, much less a peripheral device virtual functionality overlay for a data library. The Office Action does not rely on *Nolan* as teaching this element.

Independent claim 12 also recites “a lookup table that indicates unique host device identifiers authorized to access each of said data transfer elements of said library.” The Office Action cites column 44, lines 54-58, and column 45, lines 24-27 of *Isfeld* as teaching this element. As pointed out above, *Isfeld* fails to teach any sort of library as recited in this element of claim 12. Further, the cited portion of *Isfeld* fails to teach, or suggest, “a lookup table that indicates unique host device identifiers.” Rather, it seems that the text at column 44, lines 54-58 of *Isfeld* discusses use of a central routing table in which a route can be looked-up. Column 45, lines 24-27 of *Isfeld* discusses central bridge routing tables being maintained in a distributed protocol module (DPM). However, neither of the cited passages teach or suggest a lookup table that “indicates unique host device identifiers,” much less “unique host device identifiers authorized to access each of said data transfer elements” of a data library.

The Office Action cites from column 6, line 64, through column 7, line 20 of *Nolan* and column 45, lines 49-54 of *Isfeld* as teaching the last portion of independent claim 12. This last portion of independent claim 12 contains several elements discussed in greater detail below. However, Applicant respectfully asserts that the passages of *Nolan* and *Isfeld* cited fail to teach or suggest various ones of these elements.

Independent claim 12 also recites “said bridge comprises firmware that uses said lookup table to determine whether a host initiating commands directed to a data transfer element of said library is authorized to issue commands to said data transfer element.” As noted above the cited portion of *Isfeld* only discloses central bridge routing tables being maintained in a DPM. As also noted above, the cited portion of *Nolan* only appears to teach a storage server that includes resources in the operating system and at interfaces to client servers which emulate physical storage devices. Both *Isfeld* and *Nolan* are silent concerning firmware, much less firmware that uses a lookup table to determine whether a host is authorized to issue commands to a particular data transfer element.

Claim 12 also recites “said bridge firmware passes through to said data transfer element authorized commands that can be carried out by said data transfer element.” Although *Nolan* appears to provide that “[t]he storage server also includes resources in the operating system and at the interfaces to the client servers which emulate physical storage devices,” *Nolan* fails to teach bridge firmware that passes through authorized commands that can be carried out by a data transfer element to that data transfer element.

Finally, claim 12 recites “said bridge firmware intercepts and executes commands directed to said data transfer element that cannot be carried out by said data transfer element.” As noted above, *Isfeld* only teaches forwarding packets, such as at column 9, line 25, not “intercepting commands.” Although, as noted, *Nolan* appears to provide that “[t]he storage server also includes resources in the operating system and at the interfaces to the client servers which emulate physical storage devices,” *Nolan* fails to teach that commands executed are commands that cannot be carried out by the data transfer element to which the commands were directed.

For at least the reasons advanced above, Applicant respectfully asserts that independent claim 12 recites elements that are not taught or suggested by the combination of *Isfeld* and *Nolan*. Therefore, independent claim 12 is patentable over the 35 U.S.C. § 103(a) rejection of record.

Claims 13-17 each ultimately depend from independent claim 12. Thereby, each of claims 13-17 inherit all elements of claim 12. Therefore, for at least the reasons advanced above in addressing the obviousness rejection of claim 12, each of claims 13-17 set forth features and elements not recited by the combination of *Isfeld* and *Nolan*. Thus, claims 13-17 are also patentable over the 35 U.S.C. § 103(a) rejection of record.

### 3. Claims 18-26

Independent claim 18 recites “a data storage array divided into partitions.” The Office Action cites column 5, lines 44-50 of *Nolan* as teaching this element. The cited portion of *Nolan* only appears to teach that “block storage interface 118...includes support for...partitioned data storage.” Nothing in this passage of *Nolan* would indicate that *Nolan* teaches dividing a data storage array into partitions.

Independent claim 18 also recites “a plurality of library partitions corresponding to said array partitions.” Column 5, lines 44-50 of *Nolan* is also cited as teaching this element. Again, nothing in this passage of *Nolan* teaches corresponding a plurality of library partitions to the array partitions.

Independent claim 18 additionally recites “a plurality of data transfer elements each of said data transfer elements assigned to one of said library partitions.” The Office Action cites column 5, lines 40-50 of *Nolan* as teaching this element. Lines 40-43 of column 5 of *Nolan* only appear to add that messages between components may be used in *Nolan*. Nothing in this teaching or the previously discussed teachings of lines 44-50 of column 5 of *Nolan* teaches or suggests assigning data transfer elements to data library partitions, as claimed in claim 18.

Claim 18 also recites “a plurality of data storage element slots, each of said slots assigned to one of said library partitions.” It appears that the Office Action cites *Isfeld*, column 9, lines 28-42, as teaching this element. As noted above, *Isfeld* is silent concerning a data library, much less data library data storage element slots and assigning each of such slots to a library partition.

Claim 18 also recites “a library controller that defines a virtual controller for each of said library partitions, said virtual controllers directing movement of data storage media to and from slots assigned to a same of said partitions and to and from data transfer elements assigned to a same of said partitions, said slots and said data transfer elements assigned to a same of said partitions” Again, the Office Action cites column 9, lines 28-42, of *Isfeld* as teaching these elements. Applicant respectfully asserts that the teachings of the cited portion of *Isfeld* that packets which cannot be directly routed may be routed with instructions in no way teaches or suggests these elements of claim 18 that deal with the movement of data storage media to and from slots and data transfer elements in a partitioned data library.

Finally claim 18 recites “at least one bridge disposed between said array and said library, wherein said bridge passes through authorized commands that can be carried out by one of said data transfer elements to said one data transfer element and wherein said bridge intercepts commands directed to said one data transfer element that cannot be carried out by said one data transfer element and executes said commands that cannot be carried out by said

one data transfer element.” The Office Action again cites column 9, lines 28-42 of *Isfeld* as teaching these elements. Applicant respectfully asserts that the cited portion of *Isfeld* only teaches that packets which cannot be directly routed may be routed with instructions and in no way teaches or suggests these elements of claim 18. In contrast, these elements of claim 18 provide that a bridge passes through commands that may be carried out by a data transfer element, intercepts commands directed to said one data transfer element that cannot be carried out by the data transfer element and executes those commands. As noted above, *Isfeld* is silent concerning a data library and commands directed to a data library.

For at least the reasons advanced above, Applicant respectfully asserts that independent claim 18 recites elements that are not taught or suggested by the combination of *Isfeld* and *Nolan*. Therefore, independent claim 18 is patentable over the 35 U.S.C. § 103(a) rejection of record.

Claims 19-26 ultimately depend from independent claim 18. Thereby, claims 19-26 each inherit all elements of independent claim 18. Therefore, for at least the reasons advanced above in addressing the obviousness rejection of claim 18, each of claims 19-26 set forth features and elements not recited by the combination of *Isfeld* and *Nolan*. Thus, claims 19-26 are also patentable over the 35 U.S.C. § 103(a) rejection of record.

**B. The Office Action does not provide the requisite motivation.**

In addressing claim 2 the Office Action admits that *Isfeld* fails to teach “partitioning a library.” The Office Action attempts to cure this deficiency by introducing *Nolan*, which the Office Action alleges to teach “the partitioning of a library in a SAN(*Nolan*: 5; 44-50).” The motivation for making the combination was presented as follows:

It would have been obvious to one of ordinary skill in the art at the time of the invention to include partitioning of a library as taught by *Nolan* in the system of *Isfeld*. The motivation for doing so lies in the fact that having a partitioned computer library would provide limited access to certain users, where the library can be shared among these users, without these users overlapping into other users’ possessions.



Applicant respectfully asserts that the above-quoted motivation relies on impermissible hindsight in order to piece together the elements of the claims based on knowledge gleaned from Applicant's disclosure. Without the teachings of Applicant's disclosure one of ordinary skill in the art would not find it obvious to partition a data library for the purposes of securing access to these partitions. The statement "having a partitioned computer library would provide limited access to certain users, where the library can be shared among these users, without these users overlapping into other users' possessions" merely restates teaching of Applicant's disclosure. These teachings cannot be gleaned from either *Isfeld* or *Nolan*. Thus, Applicant respectfully asserts that the Examiner is relying on the teachings of the present application to conclude that one of ordinary skill in the art would be motivated to "include partitioning of a library as taught by Nolan in the system of Isfeld," particularly whereas *Nolan* only makes a passing mention of a block storage interface that includes support for partitioned data storage. Thus, the motivation provided by the Office Action to combine *Isfeld* and *Nolan* to reach claim 2 is improper and the rejection of claim 2 should be withdrawn.

The Office action goes on to cite other portions of *Nolan* as teaching elements of claims 6, 11, 12, 14, 18, 20, 25 and 26. However, no motivation is provided for combining these teachings of *Nolan* with the system of *Isfeld*. It is well settled that the fact that references can be combined or modified is not sufficient to establish a prima facie case of obviousness, M.P.E.P. § 2143.01. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990), as cited in M.P.E.P. § 2143.01. No valid suggestion has been made by the Office Action as to why a combination of *Isfeld* and *Nolan* is desirable to reach the elements of claims 6, 11, 12, 14, 18, 20, 25 and 26. Therefore, the rejection of at least claims 6, 11, 12, 14, 18, 20, 25 and 26 should be withdrawn.

Finally, the motivation provided by the office action concludes with the allegation: "Both inventions are from the same field of endeavor, namely the efficient computer execution of commands." Citing *Ruiz v. A.B. Chance Co.*, 357 F.3d 1270, 69 USPQ2d 1686 (Fed. Cir. 2004) M.P.E.P. § 2143.01 points out that motivation to combine references to arrive at the claimed invention may be found in the nature of the problem to be solved when

each reference is directed “to precisely the same problem.” However, *Isfeld* and *Nolan*, while both related to computer networks are not directed to precisely the same problem. *Isfeld* addresses scalability in networks. (See the paragraph beginning on line 1 of column 2.) In contrast, *Nolan* addresses the reliance of prior storage area networks on expensive, non-standard components and the difficulty in administering prior SANs. (See column 1, lines 50-52). Merely because references are from the same field of endeavor does not, alone, provide any motivation for combining their teachings in the manner suggested by the Office Action.

As no valid suggestion has been made as to why a combination of *Isfeld* and *Nolan* is desirable, the combination of *Isfeld* and *Nolan* advanced by the Office Action is improper. Therefore, the rejection of claims 2, 6 and 11-26 should be withdrawn.

#### IV. Conclusion

For all the reasons given above, Applicant submits that the pending claims distinguish over the prior art under 35 U.S.C. §§ 102 and 103. Accordingly, Applicant submits that this application is in condition for allowance.

Applicant believes no fee is due with this response. However, if a fee is due, please charge Deposit Account No. 08-2025, under Order No. 30014513-1, from which the undersigned is authorized to draw.

Applicant respectfully requests that the Examiner call the below listed attorney if the Examiner believes that the attorney can be helpful in resolving any remaining issues or can otherwise be helpful in expediting prosecution of the present application.


I hereby certify that this correspondence is being deposited with the U.S. Postal Service as Express Mail, Airbill No. EV482743989US, in an envelope addressed to: MS Amendment, Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450, on the date shown below.

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